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Independent claim (one and only) of Japanese Kokai 11-76244

Title: Treating device for endoscope

Treating device for endoscope that has an insertable part that can be inserted inside the body;

a pair of treatment parts on the tip part of the aforementioned insertable part that can open and close and having biopsy cups;

a treatment part opening-closing means to drive the opening and closing of the aforementioned treatment part;

and a manipulation means to manipulate the opening and closing for the aforementioned treatment means from the base-end side of the aforementioned insertion part by way of the aforementioned treatment part opening and closing means, and characterized in that a notch is provided in at least one of the aforementioned biopsy cups, and the shape of the aforementioned notch part is formed to be long in the axial direction.

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TREATING DEVICE FOR ENDOSCOPE

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Inventor(s): INO MINORU
Applicant(s): OLYMPUS OPTICAL CO LTD
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EC Classification:
Equivalents:

Abstract

PROBLEM TO BE SOLVED: To achieve a sampling of a large tissue and a higher strength of a biopsy cup by providing notch parts long axially at least at a part of a biopsy cup to eliminate possible breakage of the tissue by squeezing.

SOLUTION: A treating part 3 provided at the tip of a sheath 2 of a treating device 1 for an endoscope is constituted of a pair of biopsy cups 4a and 4b and a link mechanism 5 for driving the opening or closing of the biopsy cups 4a and 4b. Notch parts 17a and 17b are arranged oval on the rear of the bodies 10a and 10b of the biopsy cups 4a and 4b in the direction of an inserting axis of the sheath to prevent possible crushing of the tissue in the excision of a tissue piece. The sectional area of the side of the bodies 10a and 10b of the biopsy cups are made larger. This enhances the mechanical strength of the bodies 10a and 10b of the biopsy cups, thereby achieving a higher durability and a sampling of a larger tissue piece.

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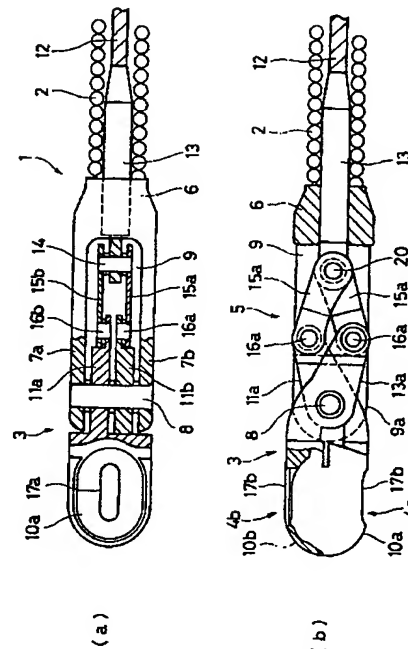
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(54) 【発明の名称】 内視鏡用処置具

(57) 【要約】

【課題】 組織を押し潰して破損することなく、大きな組織を採取可能であり、かつ生検カップの強度を向上させた内視鏡用処置具を提供することにある。

【解決手段】 体内に挿入される挿入部と、前記挿入部の先端部に生検カップを有する開閉可能な一對の処置部と、前記処置部を開閉駆動する処置部開閉手段と、前記挿入部の基端側から前記処置部材開閉手段を介して前記処置部材の開閉を操作する操作手段とを有する内視鏡用処置具で、前記生検カップの少なくとも一部に切欠部を設け、前記切欠部の形状を軸方向に長く形成したことにより、生検カップに強い応力が加えられても、生検カップの中央部が破損することがなく、耐久性を向上させることができる。



【特許請求の範囲】

【請求項1】 体内に挿入される挿入部と、前記挿入部の先端部に生検カップを有する開閉可能な一対の処置部と、前記処置部を開閉駆動する処置部開閉手段と、前記挿入部の基端側から前記処置部材開閉手段を介して前記処置部材の開閉を操作する操作手段とを有する内視鏡用処置具において、前記生検カップの少なくとも一部に切欠部を設け、前記切欠部の形状を軸方向に長く形成したことを特徴とする内視鏡用処置具。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は生体腔内等で生体組織を採取するために用いる内視鏡用処置具に関する。

【0002】

【従来の技術】生体腔内等の組織片を採取する場合に、組織を崩すことなく、大きく深く組織片を切り取る必要がある。そのために、実開昭47-20087号公報には、可撓管の先端部に配設され、一部に円形状の切欠部を設けたカップ状鉗子部材が開示されている。

【0003】この生体腔内組織採取用鉗子は、図6に示すように、可撓管内を挿通したワイヤを可撓管の基端部側から操作することにより、一対のカップ状鉗子部材23a、23bを開き、体腔内の患部組織をカップ内に捕獲し、カップ状鉗子部材を閉じることにより組織を採取する。このとき、円形の切欠部24a、24bから患部組織の一部を切欠部24a、24bの外へ逃がすことにより、組織を押しつぶして破壊することなく、大きな組織片として採取することを可能としている。

【0004】

【発明が解決しようとする課題】前記実開昭47-20087号公報の生体腔内組織採取用鉗子では、カップ状鉗子部材23a、23bの略中央部に円形の切欠部24a、24bを設けているため、図6(C)のB-B断面図から明らかなように、カップ状鉗子部材23a、23bを挿入軸に直交する方向に切った断面の面積は小さくなり、カップ状鉗子部材23a、23bの強度が弱く、耐久性が悪いという問題があった。

【0005】本発明は、以上の問題に着目してなされたもので、組織を押し潰して破壊することなく、大きな組織を採取可能であり、かつ生検カップの強度を向上させた内視鏡用処置具を提供することを目的とする。

【0006】

【課題を解決するための手段】本発明は、体内に挿入される挿入部と、前記挿入部の先端部に生検カップを有する開閉可能な一対の処置部と、前記処置部を開閉駆動する処置部開閉手段と、前記挿入部の基端側から前記処置部材開閉手段を介して前記処置部材の開閉を操作する操作手段とを有する内視鏡用処置具において、前記生検カップの少なくとも一部に切欠部を設け、前記切欠部の形

状を軸方向に長く形成した構成とした。

【0007】このような構成とすることで、生検カップに強い応力が加えられても、生検カップの中央部が破損することがなく、耐久性を向上させることができる。

【0008】

【発明の実施の形態】

<第1実施形態>以下に、図を参照して本発明の実施の形態について説明する。

【0009】(構成)図1および図2は本発明の第1実施形態に係り、図1は内視鏡用処置具の先端部を示す説明図で、図1(a)は部分断面を示す正面図、図1(b)は同側面図、図2は一方の生検カップの形状を示す説明図で、図2(a)は正面図、図2(b)は側面図、図2(c)は図2(b)のA-A断面を示す断面図である。

【0010】図1に示すように、第1実施形態の内視鏡用処置具1は、患者の体内に挿入する挿入部を構成する密巻きコイルからなる細長の可撓性シース2と、このシース2の先端に設けられた処置部3と、シース2の後端側に設けられた図示しない操作部とから構成されている。

【0011】処置部3は、一対の生検カップ4a、4bと、この生検カップ4a、4bを開閉駆動させるリンク機構5とからなる。

【0012】図1(a)に示すように、生検カップ4a、4bは、シース2の先端部に接続されたスリーブ6の先端側に突出した上下一対のアーム部7a、7bの先端側に固定された軸8を介して、アーム部7a、7bの間に形成されたスリット9内で、開閉自在に軸支されている。この生検カップ4a、4bは、先端側の生体組織片を切り取るための生検カップ本体10a、10bと、後端側のリンク部11a、11bとからなり、中間部で軸8に軸支されている。

【0013】リンク機構5は、後端側の操作部の操作力をシース2内を挿通して伝達する操作ワイヤ12の先端側に固着された連結部材13が摺動自在に保持されており、連結部材13の先端側には連結ピン14を介してリンク部材15a、15bの後端部が回動自在に連結されている。そして、リンク部材15a、15bの先端部には連結ピン16a、16bを介して生検カップ4a、4bのリンク部11a、11bの後端部が回動自在に連結されている。

【0014】図2に示すように、生検カップ4a、4bの生検カップ本体10a、10b背面には、組織片を切り取る際に、組織が押しつぶされないように、シース2の挿入軸方向に長円状の切欠き部17a、17bが設けてあり、図2(c)に示すA-A断面図から明らかなように、生検カップ本体10a、10bの側面の断面面積が大きくなるように形成されている。

【0015】(作用)このように構成された内視鏡用処

置具1を、予め患者の体腔内に挿入した図示しない内視鏡等の鉗子チャンネルに挿入して、先端の処置部3の生検カップ本体10a、10bを切り取りたい組織近傍へ誘導する。

【0016】次に、内視鏡用処置具1の図示しない手元側操作部を操作して、シース2に対して操作ワイヤ12を先端側に摺動させる。操作ワイヤ12の動きに連動して、連結部材13と連結ピン14が先端側に移動して、リンク機構5の作用により、生検カップ4a、4bの生検カップ本体10a、10bが軸8を回転中心として両側に開く。

【0017】生検カップ本体10a、10bが両側に開いた状態で、生検カップ本体10a、10bを切り取り対象組織に押し当てた後、手元側操作部を操作して、操作ワイヤ12を後端側に摺動させる。操作ワイヤ12の動きに連動して、連結部材13と連結ピン14が後端側に移動して、リンク機構5の作用により、生検カップ本体10a、10bが閉じ、挟持された組織が患部から切断され、その切断片が閉じた両カップ内と、長円状の切欠き部17a、17bから外にはみ出させることにより、大きな組織片を採取することができる。

【0018】（効果）本実施形態の内視鏡用処置具は、図6（c）に示す従来技術の略円形の切欠きを有する生検カップの側面の断面積に比較して、図2（c）から明らかなように、生検カップ4a、4bの側面の断面積を大きくすることができるので、生検カップ本体10a、10bの中央部の機械的強度を増強でき、耐久性を向上させることができるとともに、大きな組織片を採取することができる。

【0019】なお、本実施形態において、生検カップ4a、4bの切欠き部17a、17bの形状を略長円形状の場合で説明したが、この切欠き形状は、図3に示すように略楕円形状の切欠き部18a、18bとしても、図4に示すように略長方形の切欠き部19a、19bとしても、シース2の挿入軸方向に長く形成され、挿入軸に直交する方向の断面の断面積を大きくとれる形状であればどのような形状であっても、その作用効果は変わらない。

【0020】また、本実施形態において、生検カップ4a、4bの切欠き部17a、17bの形状を各1つの略長円形状の場合で説明したが、シース2の挿入軸に直交する方向の断面の断面積を大きくとれる形状であれば、この切欠き部を略円形または略長円形等の形状として各々に複数個を、挿入軸方向に並べて配置しても良い。

【0021】＜第2実施形態＞

（構成）図5は本発明の第2実施形態に係り、図5

（a）は一方の生検カップ本体20aの形状を示す正面図、図5（b）は同側面図である。

【0022】なお、第1実施形態における構成要素と同一の構成要素については同一符号を付してその説明を省

略する。第2実施形態は、第1実施形態の生検カップ4a、4bの生検カップ本体10a、10bの咬み合わせ切断部の形状が異なる。

【0023】図5に示すように、第2実施形態の内視鏡用処置具1の生検カップ本体20a、20bのお互いの当接部には、複数のV字状突起21と、このV字状突起21と咬み合う複数のV字状谷部22が設けてある。

【0024】（作用）以上のように構成された内視鏡用処置具の作用は、第1実施形態の作用と同一である。

【0025】（効果）本実施形態の内視鏡用処置具は、第1実施形態の効果に加えて、生検カップ本体20a、20bの当接部にV字状突起21とV字状谷部22を咬み合うように設けたので、組織片を採取する際に、組織が滑らなくなるので、より大きな組織片を生検カップ本体20a、20bに採取することができる。

【0026】以上、各実施形態において詳述した内視鏡装置は、本発明の主旨を逸脱しない範囲で任意に組み合わせる用いることが可能である。

【0027】〔付記〕以上詳述したように本発明の実施態様によれば、以下のような構成を得ることができる。すなわち、

【0028】〔付記1〕 体内に挿入される挿入部と、前記挿入部の先端部に生検カップを有する開閉可能な一対の処置部と、前記処置部を開閉駆動する処置部開閉手段と、前記挿入部の基端側から前記処置部材開閉手段を介して前記処置部材の開閉を操作する操作手段とを有する内視鏡用処置具において、前記生検カップの少なくとも一部に切欠き部を設け、前記切欠き部の形状を挿入軸方向に長く形成したことを特徴とする内視鏡用処置具。

【0029】〔付記2〕 付記1項に記載の内視鏡用処置具であって、前記切欠き部を複数個設けた。

【0030】〔付記3〕 付記2項に記載の内視鏡用処置具であって、複数の前記切欠き部を挿入軸方向に配置した。

【0031】〔付記4〕 付記1項乃至3項に記載の内視鏡用処置具であって、前記切欠き部の形状は、略長円形状である。

【0032】〔付記5〕 付記1項乃至3項に記載の内視鏡用処置具であって、前記切欠き部の形状は、略楕円形状である。

【0033】〔付記6〕 付記1項乃至3項に記載の内視鏡用処置具であって、前記切欠き部の形状は、略長方形である。

【0034】〔付記7〕 付記1項乃至6項に記載の内視鏡用処置具であって、前記生検カップの互いの当接面に、少なくとも1対の凸部と凹部を設けた。

【0035】〔付記8〕 付記7項に記載の内視鏡用処置具であって、前記凸部と凹部は、前記生検カップの先端部にある。

【0036】〔付記9〕 付記7項に記載の内視鏡用処

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置具であって、前記凸部と凹部は、前記生検カップの中央部または後端部の少なくとも一方にある。

【0037】

【発明の効果】以上説明したように、本発明の内視鏡用処置具によれば、生検カップの挿入軸に直交する方向の断面の断面積を大きく構成することができるので、生検カップの中央部の機械的強度を強くすることができ、耐久性を向上することができる。

【図面の簡単な説明】

【図1】 本発明の第1実施形態に係り、内視鏡用処置具の先端部を示す説明図で、図1(a)は部分断面を示す正面図、図1(b)は同側面図である。

【図2】 一方の生検カップの形状を示す説明図で、図2(a)は正面図、図2(b)は側面図、図2(c)は図2(b)のA-A断面を示す断面図である。

【図3】 第1実施形態の生検カップの変形例を示す正面図である。

【図4】 第1実施形態の生検カップの変形例を示す正面図である。

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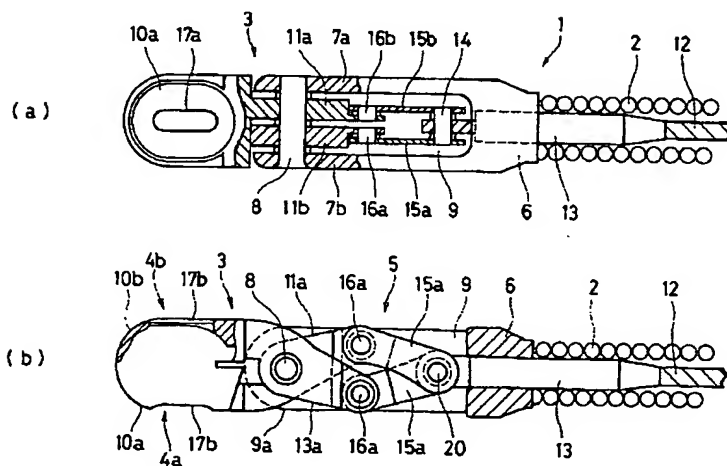
【図5】 本発明の第2実施形態に係り、図5(a)は一方の生検カップの形状を示す正面図、図5(b)は同側面図である。

【図6】 従来技術の生検カップの一方の形状を示す説明図で、図2(a)は正面図、図2(b)は側面図である。

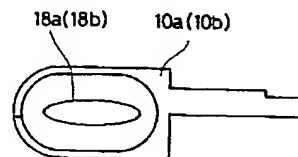
【符号の説明】

- 1 内視鏡用処置具
- 2 シース
- 3 処置部
- 4 a、4 b 生検カップ
- 5 リンク機構
- 6 スリーブ
- 10 a、10 b、20 a、20 b 生検カップ本体
- 12 操作ワイヤ
- 17 a、17 b、18 a、18 b、19 a、19 b、切欠き部
- 21 V字状突起
- 22 V字状谷部

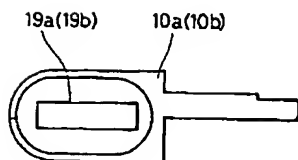
【図1】



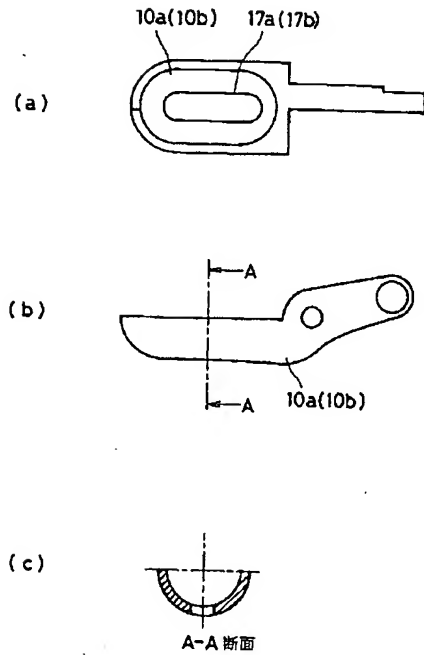
【図3】



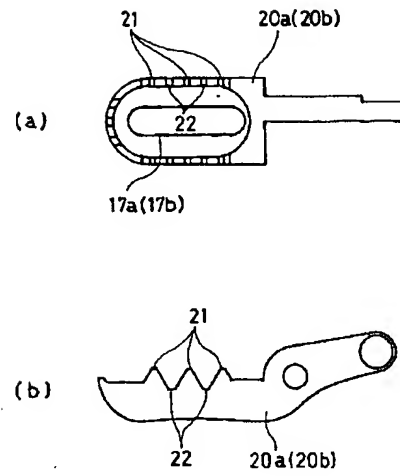
【図4】



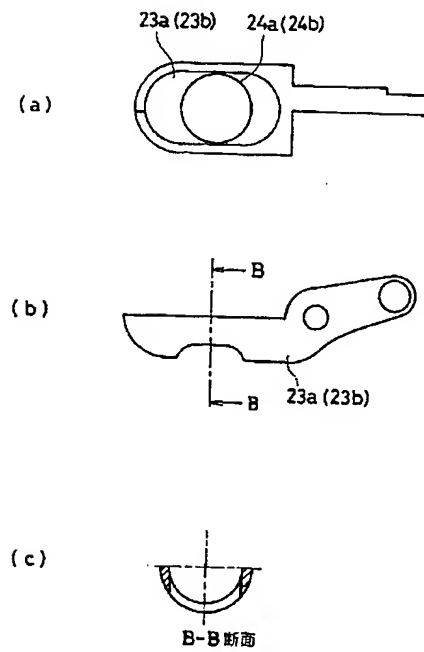
【図2】



【図5】



【図6】



CLAIMS

[Claim(s)]

[Claim 1] The insertion section inserted in the inside of the body, and the treatment section of a pair which can be opened and closed and which has a biopsy cup in the point of said insertion section, In the treatment implement for endoscopes which has the treatment section closing motion means which carries out the closing motion drive of said treatment section, and an actuation means to operate closing motion of said treatment member through said treatment member closing motion means from the end face side of said insertion section The treatment implement for endoscopes characterized by having prepared the notch in said some of biopsy cups [at least], and forming the configuration of said notch in shaft orientations for a long time.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the treatment implement for endoscopes used in order to extract a body tissue within a living body cavity etc.

[0002]

[Description of the Prior Art] It is necessary to cut off an explant deeply greatly, without breaking down an organization, when extracting the explants in a living body cavity etc. Therefore, it is arranged in JP,47-20087,U by the point of a flexible tube, and the cup-like forceps member which prepared the notch of a circle configuration in the part is indicated.

[0003] As shown in drawing 6 , by operating the wire which inserted in within flexibility from the end face section side of a flexible tube, these forceps for the organization extraction in a living body cavity open the cup-like forceps members 23a and 23b of a pair, capture the affected part organization in a coelome in a cup, and extract an organization by closing a cup-like forceps member. It makes it possible to extract as a big explant, without crushing an organization and destroying by missing some affected part organizations out of Notches 24a and 24b from the circular notches 24a and 24b, at this time.

[0004]

[Problem(s) to be Solved by the Invention] In the forceps for the organization extraction in a living body cavity of said JP,47-20087,U Since the circular notches 24a and 24b are formed in the abbreviation center section of the cup-like forceps members 23a and 23b, The area of the cross section which cut the cup-like forceps members 23a and 23b in the direction which intersects perpendicularly with an insertion shaft became small, and its reinforcement of the cup-like forceps members 23a and 23b was weak, and it had the problem that endurance was bad so that clearly from the B-B sectional view of

drawing 6 (C).

[0005] This invention aims at offering the treatment implement for endoscopes which was made paying attention to the above problem, could extract the big organization, without having crushed the organization and damaging, and raised the reinforcement of a biopsy cup.

[0006]

[Means for Solving the Problem] The insertion section by which this invention is inserted in the inside of the body, and the treatment section of a pair which can be opened and closed and which has a biopsy cup in the point of said insertion section, In the treatment implement for endoscopes which has the treatment section closing motion means which carries out the closing motion drive of said treatment section, and an actuation means to operate closing motion of said treatment member through said treatment member closing motion means from the end face side of said insertion section The notch was prepared in said some of biopsy cups [at least], and it considered as the configuration which formed the configuration of said notch in shaft orientations for a long time.

[0007] By considering as such a configuration, even if stress strong against a biopsy cup is applied, the center section of the biopsy cup cannot be damaged and endurance can be raised.

[0008]

[Embodiment of the Invention]

The gestalt of operation of this invention is explained below to the <1st operation gestalt> with reference to drawing.

[0009] (Configuration) It is the explanatory view in which drawing 1 and drawing 2 start the 1st operation gestalt of this invention, drawing 1 is the explanatory view showing the point of the treatment implement for endoscopes, the front view in which drawing 1 (a) shows a partial cross section, and drawing 1 (b) show this side elevation, and drawing 2 shows the configuration of one biopsy cup, and drawing 2 (a) is a sectional view in which a front view and drawing 2 (b) show a side elevation, and drawing 2 (c) shows the A-A cross section of drawing 2 (b).

[0010] As shown in drawing 1 , the treatment implement 1 for endoscopes of the 1st operation gestalt consists of a flexible sheath 2 of the ** length who consists of a close-winding coil which constitutes the insertion section inserted in a patient's inside of the body, the treatment section 3 prepared at the tip of this sheath 2, and a control unit which was prepared in the back end side of a sheath 2 and which is not illustrated.

[0011] The treatment section 3 consists of a link mechanism 5 which carries out the closing motion drive of the biopsy cups 4a and 4b and these biopsy cups 4a and 4b of a pair.

[0012] It is supported to revolve free [closing motion] through the shaft 8 fixed to the tip side of the arm sections 7a and 7b of the vertical pair projected to the tip side of a sleeve 6 where the biopsy cups 4a and 4b were connected [drawing 1 / (a)] by the point of a sheath 2 so that it might be shown within the slit 9 formed among the arm sections 7a and 7b. These biopsy cups 4a and 4b consist of bodies 10a and 10b of a biopsy cup for cutting off the piece of a body tissue by the side of a tip, and the link sections 11a and 11b by the side of the back end, and are supported to revolve with pars intermedia by the shaft 8.

[0013] The connection member 13 which fixed to the tip side of the actuation wire 12

which inserts in the inside of a sheath 2 and transmits the operating physical force of the control unit by the side of the back end is held free [sliding], and the link mechanism 5 is connected with the tip side of the connection member 13 through the connection pin 14 free [rotation of the back end section of the link members 15a and 15b]. And the back end section of the link sections 11a and 11b of the biopsy cups 4a and 4b is connected with the point of the link members 15a and 15b free [rotation] through the connection pins 16a and 16b.

[0014] The ellipse-like notches 17a and 17b are formed in the insertion shaft orientations of a sheath 2, and as shown in drawing 2 , in case an explant is cut off, it is formed in body of biopsy cup 10a of the biopsy cups 4a and 4b, and 10b tooth back so that from the A-A sectional view shown in drawing 2 (c), and the cross section of the side face of the bodies 10a and 10b of a biopsy cup may become large, so that an organization may not be crushed.

[0015] (Operation) The treatment implement 1 for endoscopes constituted in this way is inserted in forceps channels, such as an endoscope which was beforehand inserted into a patient's coelome and which is not illustrated, and it guides near the organization which wants to cut off the bodies 10a and 10b of a biopsy cup of the treatment section 3 at a tip.

[0016] Next, the hand side control unit which the treatment implement 1 for endoscopes does not illustrate is operated, and the actuation wire 12 is slid on a tip side to a sheath 2. A motion of the actuation wire 12 is interlocked with, the connection member 13 and the connection pin 14 move to a tip side, and according to an operation of a link mechanism 5, the bodies 10a and 10b of a biopsy cup of the biopsy cups 4a and 4b make a shaft 8 the center of rotation, and open it on both sides.

[0017] After the bodies 10a and 10b of a biopsy cup cut off the bodies 10a and 10b of a biopsy cup and press against a candidate organization in the condition of having opened to both sides, a hand side control unit is operated and the actuation wire 12 is slid on a back end side. A big explant is extractable by a motion of the actuation wire 12 being interlocked with and the connection member 13 and the connection pin 14 moving to a back end side, and the organization where the bodies 10a and 10b of a biopsy cup closed, and it was pinched being cut from the affected part by operation of a link mechanism 5, and making the ellipse-like notches 17a and 17b overflow outside according to it in both the cups that the piece of cutting closed.

[0018] (Effectiveness) As compared with the cross section of the side face of a biopsy cup in which it has notching of the approximate circle form of the conventional technique shown in drawing 6 (c), the treatment implement for endoscopes of this operation gestalt so that clearly from drawing 2 (c) A big explant is extractable, while being able to reinforce the mechanical strength of the center section of the bodies 10a and 10b of a biopsy cup and being able to raise endurance, since the cross section of the side face of the biopsy cups 4a and 4b can be enlarged.

[0019] In addition, in this operation gestalt, in the case of an abbreviation ellipse configuration, explained the configuration of the notches 17a and 17b of the biopsy cups 4a and 4b, but As shown in drawing 3 , this notching configuration also as abbreviation elliptical notches 18a and 18b As shown in drawing 4 , it is formed to the insertion shaft orientations of a sheath 2 for a long time also as notches 19a and 19b of an abbreviation rectangle, and if it is in the configuration which can take the large cross

section of the cross section of the direction which intersects perpendicularly with an insertion shaft, no matter it may be what configuration, the operation effectiveness does not change.

[0020] Moreover, in this operation gestalt, in the case of one abbreviation ellipse configuration [each], the configuration of the notches 17a and 17b of the biopsy cups 4a and 4b was explained, but as long as it is in the configuration which can take the large cross section of the cross section of the direction which intersects perpendicularly with the insertion shaft of a sheath 2, this notch may be arranged in each, plurality may be arranged in insertion shaft orientations as configurations, such as an approximate circle form or an abbreviation ellipse, and you may arrange.

[0021] <2nd operation gestalt> (configuration) drawing 5 starts the 2nd operation gestalt of this invention, and the front view in which drawing 5 (a) shows the configuration of one body of biopsy cup 20a, and drawing 5 (b) are these side elevations.

[0022] In addition, the same sign is attached about the same component as the component in the 1st operation gestalt, and the explanation is omitted. The 2nd operation gestalten differ in the configuration of the **** doubling cutting section of the bodies 10a and 10b of a biopsy cup of the biopsy cups 4a and 4b of the 1st operation gestalt.

[0023] As shown in drawing 5 , two or more V character-like projections 21, this V character-like projection 21, and the V character-like trough 22 of ***** plurality are provided in the bodies' 20a and 20b of a biopsy cup of the treatment implement's 1 for endoscopes of the 2nd operation gestalt's contact section of each other.

[0024] (Operation) The operation of the treatment implement for endoscopes constituted as mentioned above is the same as an operation of the 1st operation gestalt.

[0025] (Effectiveness) the treatment implement for endoscopes of this operation gestalt -- the effectiveness of the 1st operation gestalt -- in addition, the contact section of the bodies 20a and 20b of a biopsy cup -- the V character-like projection 21 and the V character-like trough 22 -- ***** -- since an organization stops sliding in case an explant is extracted, since it prepared like, a bigger explant is extractable on the bodies 20a and 20b of a biopsy cup.

[0026] As mentioned above, in the range which does not deviate from the main point of this invention, it combines and the endoscope equipment explained in full detail in each operation gestalt can be used for arbitration.

[0027] According to the embodiment of this invention, the following configurations can be obtained as explained in full detail more than the [additional remark]. Namely, [0028]

[Additional remark 1] The insertion section inserted in the inside of the body, and the treatment section of a pair which can be opened and closed and which has a biopsy cup in the point of said insertion section, In the treatment implement for endoscopes which has the treatment section closing motion means which carries out the closing motion drive of said treatment section, and an actuation means to operate closing motion of said treatment member through said treatment member closing motion means from the end face side of said insertion section The treatment implement for endoscopes characterized by having prepared the notch in said some of biopsy cups [at least], and forming the configuration of said notch in insertion shaft orientations for a long time.

[0029] [Additional remark 2] It is a treatment implement for endoscopes given in additional remark 1 term, and two or more said notches were prepared.

[0030] [Additional remark 3] It is a treatment implement for endoscopes given in additional remark 2 term, and said two or more notches have been arranged to insertion shaft orientations.

[0031] [Additional remark 4] It is a treatment implement for endoscopes given in additional remark 1 term thru/or the 3rd term, and the configuration of said notch is an abbreviation ellipse configuration.

[0032] [Additional remark 5] It is a treatment implement for endoscopes given in additional remark 1 term thru/or the 3rd term, and the configuration of said notch is abbreviation elliptical.

[0033] [Additional remark 6] It is a treatment implement for endoscopes given in additional remark 1 term thru/or the 3rd term, and the configuration of said notch is an abbreviation rectangle.

[0034] [Additional remark 7] It is a treatment implement for endoscopes given in additional remark 1 term thru/or the 6th term, and at least one pair of heights and a crevice were established in the mutual contact side of said biopsy cup.

[0035] [Additional remark 8] It is a treatment implement for endoscopes given in additional remark 7 term, and said heights and crevice are in the point of said biopsy cup.

[0036] [Additional remark 9] It is a treatment implement for endoscopes given in additional remark 7 term, and said heights and crevice are in either [at least] a center section or the back end section of said biopsy cup.

[0037]

[Effect of the Invention] Since the cross section of the cross section of the direction which intersects perpendicularly with the insertion shaft of a biopsy cup can be greatly constituted according to the treatment implement for endoscopes of this invention as explained above, the mechanical strength of the center section of the biopsy cup can be strengthened, and endurance can be improved.

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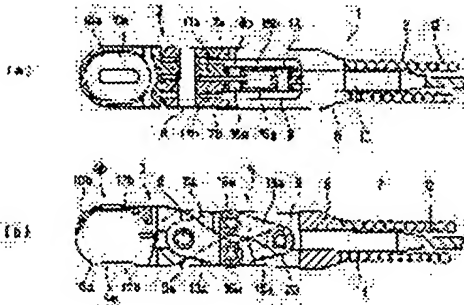
(54) TREATING DEVICE FOR ENDOSCOPE

(57)Abstract:

PROBLEM TO BE SOLVED: To achieve a sampling of a large tissue and a higher strength of a biopsy cup by providing notch parts long axially at least at a part of a biopsy cup to eliminate possible breakage of the tissue by squeezing.

SOLUTION: A treating part 3 provided at the tip of a sheath 2 of a treating device 1 for an endoscope is constituted of a pair of biopsy cups 4a and 4b and a link mechanism 5 for driving the opening or closing of the biopsy cups 4a and 4b. Notch parts 17a and 17b are arranged oval on the rear of the bodies 10a and 10b of the biopsy cups 4a and 4b in the direction of an inserting axis of the sheath to prevent possible crushing of the tissue in the excision of a tissue piece. The sectional area of the side of the bodies 10a and 10b of the biopsy cups are made larger. This enhances the mechanical strength of the bodies 10a and 10b of the biopsy cups, thereby achieving a higher durability and a

sampling of a larger tissue piece.



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